Applicant: STARZ, et al. Serial No.: 09/915,764 Filing Date: July 27, 2001

Amendment and Reply to Office Action - December 13, 2005

Page 2 of 11

## Amendments to the specification:

Please amend page 2, line 1 as follow:

Page 1, line 17 through page 2, line 2:

The PEM fuel cell consists of a stacked arrangement ("stack") of membrane electrode assemblies (MEAs), between which are arranged bipolar plates for supplying gas and removing electricity. A membrane electrode assembly consists of a solid polymer electrolyte membrane, both sides of which are provided with reaction layers containing catalyst. One of the reaction layers is designed as an anode for the oxidation of hydrogen and the second reaction layer is designed as a cathode for the reduction of oxygen. To these reaction layers are applied so-called gas distributor layers made of carbon paper or carbon fleece which facilitate good access by the reaction gases to the electrodes and effective removal of the cell current. The anode and cathode contain so-called electrocatalysts which catalytically support the particular reaction (oxidation of hydrogen at the anode or reduction of oxygen at the cathode). Metals from the platinum group in the periodic system of elements are preferably used as the catalytically active components. In the majority of cases, so-called supported catalysts, in which the catalytically active platinum group metal has been applied in highly dispersed form to the surside surface of a conductive support material, are used.

Please amend page 7, line 3 as follows:

Page 6, line 23 through page 7, line 4:

Any electrocatalysts known from the field of fuel cells may be used as catalysts. In the case of supported catalysts, a finely divided, electrically conductive carbon is used as the support. Carbon black, graphite or activated carbon are preferably used. The platinum group metals are used as catalytically active components, e.g. platinum, palladium, ruthenium, and rhodium or alloys thereof. The catalytically active metals may contain further alloying elements such as cobalt, chromium, tungsten, molybdenum, vanadium, iron, copper, nickel etc. Depending on the thickness of the electrode layer,

Applicant: STARZ, et al. Serial No.: 09/915,764 Filing Date: July 27, 2001

Amendment and Reply to Office Action - December 13, 2005

Page 3 of 11

concentrations per assembly area of metal in the catalyst layers between 0.01 and 5 mg noble metal/cm<sup>2</sup> are possible. To prepare catalyst layers, platinum electrocatalysts on carbon black (Pt/C) with 5 to 80 wt. % platinum, or else support-free catalysts such as, for example, platinum black or platinum powder with high <u>surface</u> surside areas may also be used. Suitable electrocatalysts are described in patent documents EP 0 743 092 and DE 44 43 701.